SAFETY DATA SHEETS

According to Globally Harmonized System of Classification and Labelling of Chemicals (GHS) - Sixth revised edition

Version: 1.0

Creation Date: Aug 10, 2017

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1. Identification

1.1 GHS Product identifier

Product name	octanoic acid

1.2 Other means of identification

Product number	-
Other names	Octylic acid

1.3 Recommended use of the chemical and restrictions on use

Identified uses	For industry use only. Surfactants
Uses advised against	no data available

2. Hazard identification

2.1 Classification of the substance or mixture

Skin corrosion, Category 1B

2.2 GHS label elements, including precautionary statements

Pictogram(s)

Signal word

Danger

Hazard statement(s)

H314 Causes severe skin burns and eye damage

Precautionary

statement(s)	
Prevention	P260 Do not breathe dust/fume/gas/mist/vapours/spray. P264 Wash ... thoroughly after handling. P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response	P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower]. P363 Wash contaminated clothing before reuse. P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing. P310 Immediately call a POISON CENTER/doctor/… P321 Specific treatment (see ... on this label). P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Storage	P405 Store locked up.
Disposal	P501 Dispose of contents/container to ...

2.3 Other hazards which do not result in classification

none

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3. Composition/information on ingredients

3.1 Substances

Chemical name	Common names and synonyms	CAS number	EC number	Concentration
octanoic acid	octanoic acid	124-07-2	none	100%

4. First-aid measures

4.1 Description of necessary first-aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms/effects, acute and delayed

Harmful if swallowed, inhaled, or absorbed through skin. Material is extremely destructive to tissues of mucous membrane, and upper respiratory tract, eyes and skin. Symptoms of exposure may include burning sensation, coughing, wheezing, laryngitis, shortness or breath, headache, nausea and vomiting. (USCG, 1999)

4.3 Indication of immediate medical attention and special treatment needed, if necessary

/SRP:/ Immediate first aid: Ensure that adequate decontamination has been carried out. If patient is not breathing, start artificial respiration, preferably with a demand-valve resuscitator, bag-valve-mask device, or pocket mask, as trained. Perform CPR as necessary. Immediately flush contaminated eyes with gently flowing water. Do not induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain an open airway and prevent aspiration. Keep patient quiet and maintain normal body temperature. Obtain medical attention. /Organic acids and related

compounds/

5. Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media

If material on fire or involved in fire: Use water in flooding quantities as fog. Solid streams of water may be ineffective. Cool all affected containers with flooding quantities of water. Apply water from as far a distance as possible. Use "alcohol" foam, dry chemical or carbon dioxide. Use water spray to knock-down vapors..

5.2 Specific hazards arising from the chemical

This chemical is combustible.

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Environmental considerations: Land spill: Dig a pit, pond, lagoon, holding area to contain liquid or solid material. /SRP: If time permits, pits, ponds, lagoons, soak holes, or holding areas should be sealed with an impermeable flexible membrane liner./ Dike surface flow using soil, sand bags, foamed polyurethane, or foamed concrete. Neutralize with agricultural lime (CaO), crushed limestone ($CaCO_3$) or sodium bicarbonate ($NaHCO_3$). Absorb bulk liquid with fly ash, cement powder, or commercial sorbents.

7. Handling and storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Avoid exposure - obtain special instructions before use.Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Containers less than 1 gallon: Store in original container in areas inaccessible to children and persons unfamiliar with its proper use. Containers greater than 1 gallon: Do not contaminate water, food, feed by storage or disposal. ... Store this product in a cool, dry area, away from direct sunlight and heat../65 Disinfecting Heavy Duty Acid Bathroom Cleaner/

8. Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure limit values

no data available

Biological limit values

no data available

8.2 Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

8.3 Individual protection measures, such as personal protective equipment (PPE)

Eye/face protection

Safety glasses with side-shields conforming to EN166. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the

specific workplace. Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique(without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands. The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Respiratory protection

Wear dust mask when handling large quantities.

Thermal hazards

no data available

9. Physical and chemical properties

Physical state	Light yellow Characteristic Liquid
Colour	SOLIDIFIES TO LEAFY CRYSTALS WHEN COLD
Odour	FAINT, FRUITY-ACID ODOR
Melting point/ freezing point	320°C(dec.)(lit.)
Boiling point or initial boiling point and boiling range	237°C(lit.)
Flammability	no data available
Lower and upper explosion limit / flammability limit	no data available
Flash point	>110°C
Auto-ignition temperature	no data available
Decomposition temperature	no data available
pH	no data available
Kinematic viscosity	5.74 mPa.sec
Solubility	In water:0.68 g/L (20 °C)
Partition coefficient n-octanol/water (log value)	no data available
Vapour pressure	1 mm Hg (78 °C)
Density and/or relative density	0.91g/mLat 25°C(lit.)

Relative vapour density 5 (vs air)
Particle characteristics no data available

10. Stability and reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

CombustibleOCTANOIC ACID reacts exothermically to neutralize bases. Can react with active metals to form gaseous hydrogen and a metal salt. May absorb enough water from the air and dissolve sufficiently in it to corrode or dissolve iron, steel, and aluminum parts and containers. Reacts with cyanide salts or solutions of cyanide salts to generate gaseous hydrogen cyanide. Reacts exothermically with diazo compounds, dithiocarbamates, isocyanates, mercaptans, nitrides, and sulfides to generate flammable and/or toxic gases. Reacts with sulfites, nitrites, thiosulfates (to give H2S and SO3), dithionites (SO2), to generate flammable and/or toxic gases and heat. Reacts with carbonates and bicarbonates to generate a harmless gas (carbon dioxide) but still heat. Can be oxidized exothermically by strong oxidizing agents and reduced by strong reducing agents. A wide variety of products is possible. May initiate polymerization reactions or catalyze (increase the rate of) reactions among other materials.

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

no data available

10.6 Hazardous decomposition products

When heated to decomposition it emits acrid smoke and irritating fumes.

11. Toxicological information

Acute toxicity

- Oral: LD50 Rat oral 1410 mg/kg
- Inhalation: no data available
- Dermal: no data available

Skin corrosion/irritation

no data available

Serious eye damage/irritation

no data available

Respiratory or skin sensitization

no data available

Germ cell mutagenicity

no data available

Carcinogenicity

no data available

Reproductive toxicity

no data available

STOT-single exposure

no data available

STOT-repeated exposure

no data available

Aspiration hazard

no data available

12. Ecological information

12.1 Toxicity

- Toxicity to fish: LC50 Brachydanio rerio 110 mg/L/96 hr /Sodium salt; conditions of bioassay not specified
- Toxicity to daphnia and other aquatic invertebrates: no data available

- Toxicity to algae: no data available
- Toxicity to microorganisms: no data available

12.2 Persistence and degradability

AEROBIC: Octanoic acid reached 43, 53, 64 and 63% of its theoretical BOD after 2, 5, 10, and 30 days, respectively using a domestic sewage inoculum and an octanoic acid concn of 3.0 ppm(1). 100% decreases in initial octanoic acid concns of 0.5 mg/L and 4.3 mg/L were observed after 21 days incubation in aerobic mixed bacterial cultures obtained from trench leachate at low-level radioactive waste disposal sites in Maxey Flats, KY and West Valley, NY, respectively(2). Octanoic acid reached 60% of its theoretical oxygen demand after 5 days using a sewage seed(3). After a lag period of 2.2 days, octanoic acid present at a concn of 10,000 ppm, reached 60, 66, and 68% of its theoretical BOD after 5, 10, and 20 days, respectively using a sewage seed(4). Use of an adapted sewage seed reduced the lag period to 1.6 days, after which octanoic acid reached 60, 69, and 70% of its theoretical BOD after 5, 10, and 20 days, respectively(4). In Warburg respirometer tests using an activated sludge seed, octanoic acid, present at a concn of 500 ppm, reached 9.8, 20.4, and 32.8% of its theoretical oxygen demand after 6, 12, and 24 hours incubation, respectively(5). After 24 hours incubation, octanoic acid, present at a concn of 500 ppm, reached 5 and 59% of its theoretical oxygen demand using activated sludge inoculum from two different municipal sources(5). In a Warburg test using an activated sludge inoculum acclimated to phenol, octanoic acid, present at a concn of 500 ppm, reached 20% of its theoretical BOD after 12 hours(6). Two bacterial soil isolants were able to utilize octanoate as a growth substrate(7). A total organic carbon removal ratio of 97% was observed for octanoic acid using a non-acclimated activated sludge and an initial octanoic acid concn of 100 mg total organic carbon/L(8).

12.3 Bioaccumulative potential

An estimated BCF of 3 was calculated in fish for octanoic acid(SRC), using a log Kow of 3.05(1) and a regression-derived equation(2). According to a classification scheme(3), this BCF suggests the potential for bioconcentration in aquatic organisms is low(SRC).

12.4 Mobility in soil

The Koc of undissociated octanoic acid is estimated as 1,100 for the free acid(SRC), using a log Kow of 3.05(1) and a regression-derived equation(2). According to a classification scheme(3), this estimated Koc value suggests that undissociated octanoic acid is expected to have low mobility in soil. The pKa of

octanoic acid is 4.89(4), indicating that this compound will exist almost entirely in the anion form in the environment and anions generally do not adsorb more strongly to soils containing organic carbon and clay than their neutral counterparts(5).

12.5 Other adverse effects

no data available

13. Disposal considerations

13.1 Disposal methods

Product

The material can be disposed of by removal to a licensed chemical destruction plant or by controlled incineration with flue gas scrubbing. Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Do not discharge to sewer systems.

Contaminated packaging

Containers can be triply rinsed (or equivalent) and offered for recycling or reconditioning. Alternatively, the packaging can be punctured to make it unusable for other purposes and then be disposed of in a sanitary landfill. Controlled incineration with flue gas scrubbing is possible for combustible packaging materials.

14. Transport information

14.1 UN Number

ADR/RID: UN3265 IMDG: UN3265 IATA: UN3265

14.2 UN Proper Shipping Name

ADR/RID: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
IMDG: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.
IATA: CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S.

14.3 Transport hazard class(es)

ADR/RID: 8 IMDG: 8 IATA: 8

14.4 Packing group, if applicable

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: no IMDG: no IATA: no

14.6 Special precautions for user

no data available

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

no data available

15. Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

Chemical name	Common names and synonyms	CAS number	EC number
octanoic acid	octanoic acid	124-07-2	none
European Inventory of Existing Commercial Chemical Substances (EINECS)			Listed.
EC Inventory			Listed.
United States Toxic Substances Control Act (TSCA) Inventory			Listed.
China Catalog of Hazardous chemicals 2015			Not Listed.
New Zealand Inventory of Chemicals (NZIoC)			Listed.
Philippines Inventory of Chemicals and Chemical Substances (PICCS)			Listed.
Vietnam National Chemical Inventory			Listed.
Chinese Chemical Inventory of Existing Chemical Substances (China IECSC)			Listed.

16. Other information

Information on revision

Creation Date	Aug 10, 2017
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Abbreviations and acronyms

- CAS: Chemical Abstracts Service

- ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
- RID: Regulation concerning the International Carriage of Dangerous Goods by Rail
- IMDG: International Maritime Dangerous Goods
- IATA: International Air Transportation Association
- TWA: Time Weighted Average
- STEL: Short term exposure limit
- LC50: Lethal Concentration 50%
- LD50: Lethal Dose 50%
- EC50: Effective Concentration 50%

References

- IPCS - The International Chemical Safety Cards (ICSC), website: http://www.ilo.org/dyn/icsc/showcard.home
- HSDB - Hazardous Substances Data Bank, website: https://toxnet.nlm.nih.gov/newtoxnet/hsdb.htm
- IARC - International Agency for Research on Cancer, website: http://www.iarc.fr/
- eChemPortal - The Global Portal to Information on Chemical Substances by OECD, website: http://www.echemportal.org/echemportal/index?pageID=0&request_locale=en
- CAMEO Chemicals, website: http://cameochemicals.noaa.gov/search/simple
- ChemIDplus, website: http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp
- ERG - Emergency Response Guidebook by U.S. Department of Transportation, website: http://www.phmsa.dot.gov/hazmat/library/erg
- Germany GESTIS-database on hazard substance, website: http://www.dguv.de/ifa/gestis/gestis-stoffdatenbank/index-2.jsp
- ECHA - European Chemicals Agency, website: https://echa.europa.eu/

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safety precautions. It does not represent any guarantee of the properties of the product. We as supplier shall not be held liable for any damage resulting from handling or from contact with the above product.